**SUPPLEMENTARY TABLES :**

**TABLE S1:** Overall survival estimates (landmark survival analysis)

\*HPD adapted RECIST classes: complete response (CR), partial response (PR) and stable disease (SD) remained as defined by RECIST 1.1. Regarding progressive disease patients, these were allocated to PD non-HPD and to HPD. HPD patients are defined as progressive disease (PD) by RECIST 1.1 at the first evaluation and an increase ≥ two-fold in the TGR EXPERIMENTAL compared to REFERENCE period.

**TABLE S2:** Multivariate Cox regression analysis of the overall survival according to RMH prognostic score and HPD adapted RECIST classes (landmark analysis). Practically, patients with SD, PD and HPD lead 4.9, 16.5 and 25.9 fold increase in the death the death hazard compared to patients with CR-PR, respectively.

\*HPD adapted RECIST classes: complete response (CR), partial response (PR) and stable disease (SD) remained as defined by RECIST 1.1. Regarding progressive disease patients, these were allocated to PD non-HPD and to HPD. HPD patients are defined as progressive disease (PD) by RECIST 1.1 at the first evaluation and an increase ≥ two-fold in the TGR EXPERIMENTAL compared to REFERENCE period.

**TABLE S3 :** Multivariate linear regression model evaluating the association between tumor response (RECIST, %) and the following variables : age > 65 y.o. (yes/no), TGR REFERENCE and the Royal Marsden Prognostic score High (2-3) vs Low (1-2)

\* To be clinically meaningful, estimates are computed for 10% variation in TGR

**SUPPLEMENTARY FIGURES :**

**Figure S1 A: Distribution of the TGR EXPERIMENTAL/TGR REFERENCE ratio for HPD patients** (as defined as PD estimated by the RECIST sum and TGR ratio ≥ 2). The red dashed line represents the threshold of TGR=2 fold.

**Figure S1 B-F: Association between HPD and anatomo-clinical variables**

**(B) Patterns of progression at the first tumor evaluation (N=49):** Among patients with progressive disease by RECIST at the first evaluation, HPD patients exhibited a lower rate of new lesions than non-HPD progressing patients.

**(C)** Distribution of the tumor burden at baseline (estimated by the RECIST sum) across the HPD (N=12) and the non-HPD patients (N=119)

**(D)** Frequencies of the HPD patients among the different categories of Royal Marsden Hospital (RMH) prognostic score

**(E-F)** Distribution of the lymphocytes (D) or LDH baseline level (E), across the HPD (N=12) and the non-HPD patients (N=119)